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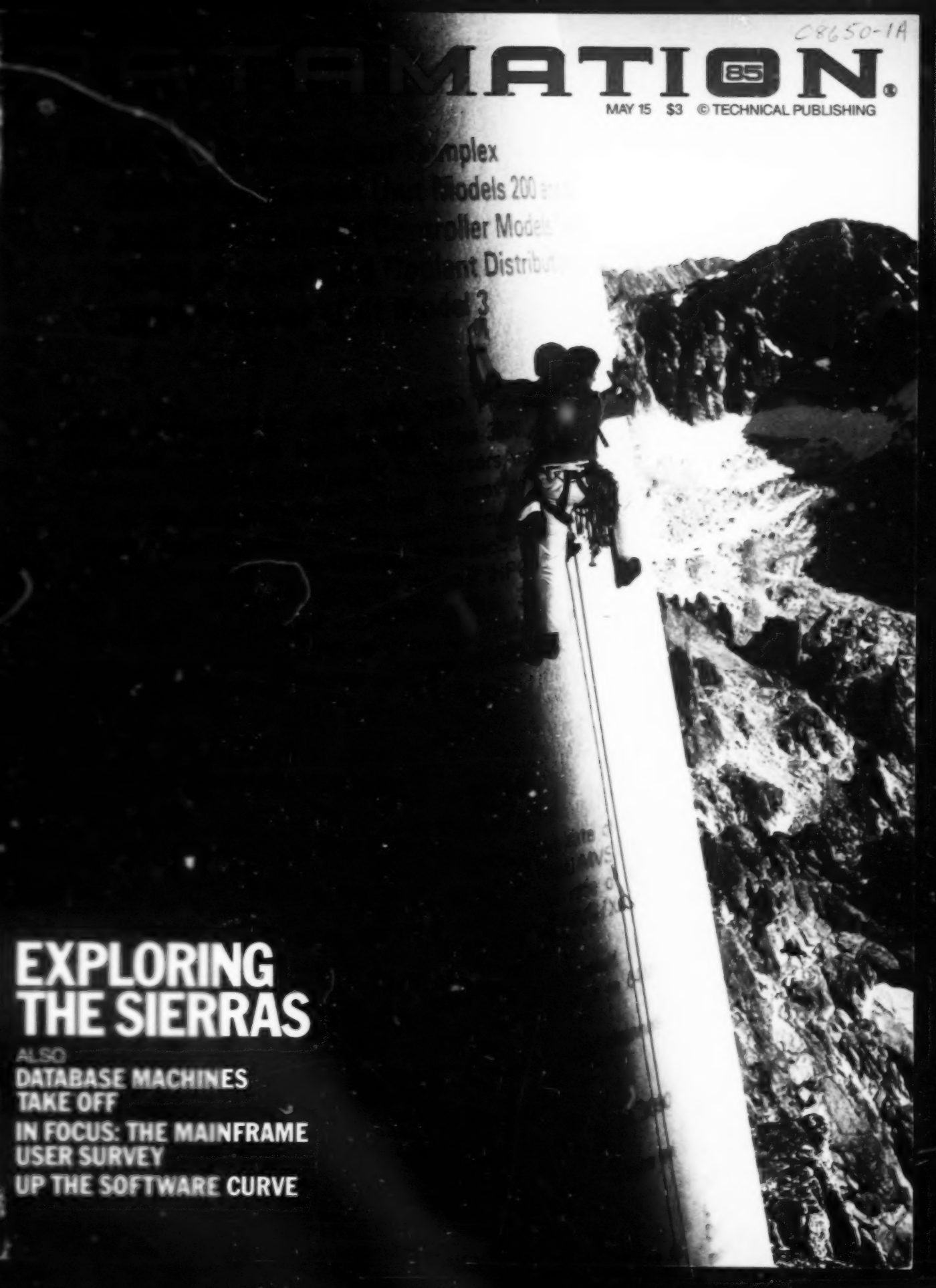

EXPLORING THE SIERRAS

ALSO

DATABASE MACHINES TAKE OFF

IN FOCUS: THE MAINFRAME USER SURVEY

UP THE SOFTWARE CURVE

DATAMATION

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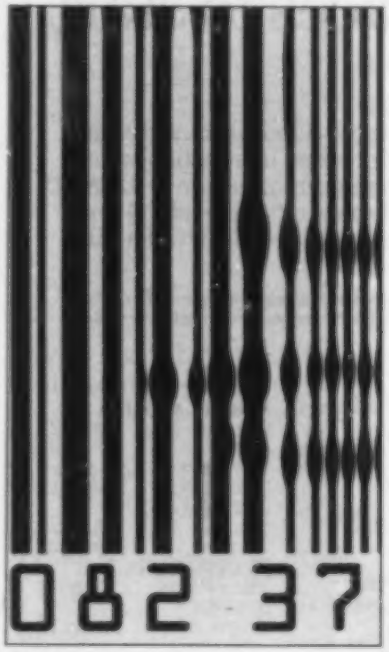

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IN FOCUS

UP, UP, AND AWAY

While the BUNCH stagnates, IBM has gained market share in virtually every mainframe product category, according to a DATAMATION/Cowen & Co. survey of user spending.

by John W. Verity

In case there was any doubt, users' spending patterns show that more of the world is IBM's these days than ever before. In virtually every product area of its mainframe business, IBM is gaining strength and market share. The company is gaining significantly against traditional systems rivals and plug-compatible suppliers, and is well ahead of the pack rushing to market with office systems, personal computers, and other forms of distributed processors. If IBM can ship the new 3090 Sierra machines in volume and on schedule (see box), it stands to record strong shipments this year and even stronger ones the next: among 370 users, demand for MIPS is as high as ever, growing about 30% a year.

Systems rivals Honeywell, Sperry, NCR, and Burroughs, meanwhile, face relatively dim futures, as the size of their mainframe user bases are merely staying level, if not losing ground to IBM, the compatible vendors, and minicomputer makers. Honeywell in particular seems vulnerable to defections, while Sperry apparently has the best 1985 shipments to look forward to. Users of non-IBM mainframes continue to criticize their suppliers chiefly for a relative lack of industry-specific applications software.

Meanwhile, as shown in several recent measures of industry activity, shipments of personal computers to corporate sites are leveling off this year. Where last year's survey showed pc shipments up 75% over the year before (in terms of units), this year's are expected to be up only 7% over last year. IBM's PC family nevertheless remains a strategic vehicle for moves into a number of emerging markets and in some cases is even winning over IBM's own host-based solutions. Among this survey's respondents, PCs will account for 28% of the money they spend with IBM for mainframe systems in the U.S. and Canada this year.

These are some of the major findings of the 1985 DATAMATION/Cowen & Co. Computer/Telecommunications Industry Survey. The survey tabulates data from 4,346 unduplicated responses, more than 2,900 of which are from IBM sites. Besides shedding light on IBM's impressive gains in the mainframe arena, this year's survey paid special attention to such topics as personal computer acquisitions, packaged software buying trends, local networking, and office automation.

IBM's massive investments in plant, capital equipment, and R&D in the past 10 years and its flexibility in making financial deals to "get the business" are paying off royally, judging by the survey's findings. With a particularly strong share of the large-scale mainframe market under its control, IBM is reaping the rewards of advanced (and often unmatched) technology—the double-density 3380 disk drive and 3480 tape unit, for instance—by gaining market share from plug-compatible suppliers of all stripes. IBM is also leveraging off that control of the central system to win increasing orders for office systems, personal computers, and other devices that will eventually be tied into mainframes.

In the large 370 processor arena, the combined share (measured in dollars) held by Amdahl and National Advanced Systems shrank by 2 percentage points to 13% in this year's survey; the two firms split that share 11% and 2%, respectively. This is the third consecutive year that the survey has indicated such a drop.

In the 370-compatible disk arena, which is enjoying quite strong shipments, survey respondents indicated that IBM would supply 78% of their disks in the 24

Plug-compatible manufacturers are not even holding their own in most product areas.

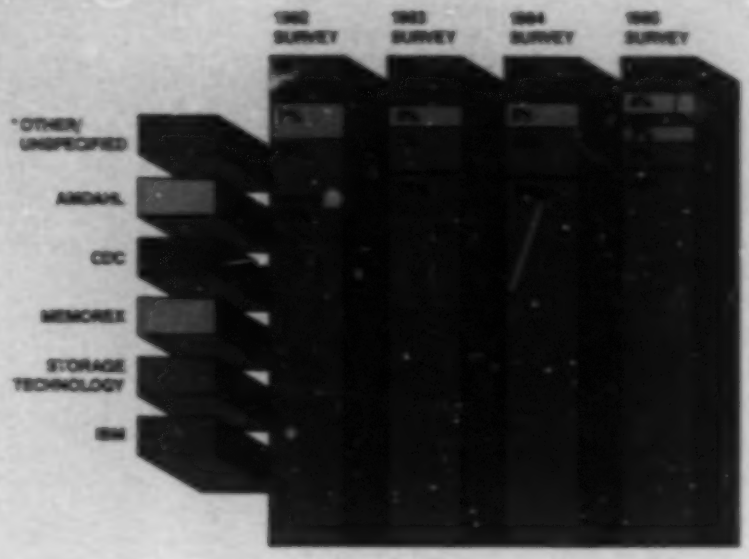
months following the survey's February 1985 date. That commanding figure is up from 75% last year and 71% in the 1982 survey. Trailing IBM are Storage Technology with 6%, Amdahl with 4%, and Memorex with 3%. Narrowing the focus down to 3380-class drives alone, IBM's share of the shipments will be 86%, compared to 81% last year. Amdahl, Memorex, StorageTek, and Control Data stand to gain only 2% each of the 3380 shipments planned for this year and next.

Similarly, IBM's hold on the 370 tape drive market is strengthening. Where last year it was to supply just under half (46%) of the tapes planned for installation in the following 24 months, this year users named IBM for two thirds (67%) of their planned tape acquisitions. StorageTek still ranks second in tape, with a 23% share this year, but has taken a dramatic fall from the 40% figure of last year. Memorex and Telex bring up

FIG. 1

IBM MAINFRAME DISK PLANS

Respondent plans for next 24 months disk add-on procurements (All models)

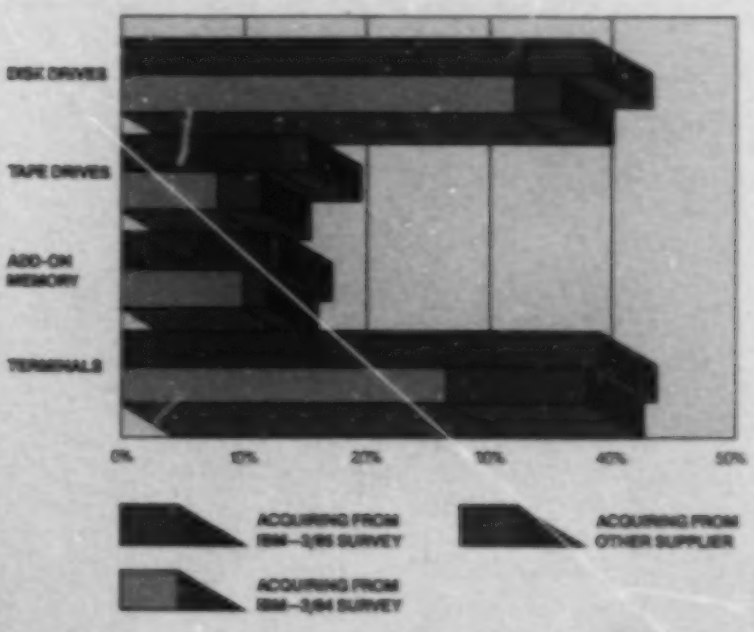


*VAS share 1% in 1985

FIG. 2

ADD-ON PERIPHERALS ACTIVITY

Percent of IBM sites planning to add peripherals/memory



the rear with 4% and 3%, respectively.

In the market for crt terminals attached to IBM mainframes (primarily 3270 gear), IBM's share reached 63% this year, up from 53% in 1983. In fact, the 3270-compatible manufacturing ranks have withered during the past year, with Raytheon (now defunct) and Four-Phase (absorbed into Motorola) dropping out of the survey findings altogether, and Telex, Lee Data, Memorex, and ITT-Courier gaining 11% (up from 8%), 3%, 2%, and 4% of planned crt business, respectively.

IBM's domination of the 370 add-on memory arena is even stronger. There it stands to win 91% (compared with 64% in 1981's survey and 82% last year) of users' planned business, followed by National Semiconductor and Intel with only 1% and 2%, respectively. This despite the fact that on average, IBM sites in the survey will attach 35 megabytes of main memory to the large-scale IBM processors they acquire over the next two years.

Within the 370-compatible processor market, National Advanced Systems gained some market share (22% this year, up from 17% last year) from Amdahl (61% this year vs. 62% in 1984). Meanwhile, IPL's share remained at 3%.

The battle for market share among pcms is evidently a heated one, as the companies compete among themselves as well as with IBM. Compatible processor makers, for instance, were found to be discounting their equipment more than last year, on average between 16% and 17%. Although the survey shows those vendors making no penetration into the high end of IBM's mainframe market compared with last year, a slight upturn was seen this year in the percentage of users saying they have such independent gear "under consideration." Overall, however, the shift in respondents' attitudes toward their current vendor was more favorable for IBM than for the pcms, and a strikingly high incidence of disaffection with suppliers was found among midrange compatible processor sites: of the sites planning to switch vendors, 60% of those using IPL gear, 59% of those using Magnuson, and 100% of the Cambex users indicated they would return to IBM.

Front-end communications controllers are increasingly important as remote terminals, pcs, and entire networks are attached to IBM mainframes. Respondents are expanding their use of such devices at a 5% compound annual rate, and here, too, IBM enjoys a commanding lead: 82% of the devices planned for installation by respondents this year and next will be from the industry leader, followed by 8% from NCR-Comten, 3% from Amdahl, and 1% from Memorex.

Except for scientific and engineering applications, IBM was the leading

choice for small systems used in standalone and distributed processing situations, exceeding Digital Equipment Corp., Hewlett-Packard, and Wang combined. The System/36 is doing extremely well, accounting for a doubling over last year in the value of combined System/36 and 38 shipments.

Just as important, the industry leader has seen no weakening of its hold on the corporate personal computer marketplace. IBM is the main pc supplier at 80% of the responding sites and stands to ship 72% of the pc units they install in 1985. The PC family and compatibles are cited by 75% of those sites that have standardized on one or two pc brands. Much of IBM's pc strength in this survey is believed to be a reflection of the mainframe orientation of the survey population, whose members tend to buy pcs centrally and directly from the manufacturer and therefore favor IBM.

IBM PCs are being attached to those mainframes in greater numbers than ever, according to the survey. Among large mainframe sites, for instance, some 93% of respondents will have attached personal computers to their host systems by the end of next year. Interestingly, the trend is away from simple terminal emulation and toward direct, two-way interaction with the mainframe and through departmental minicomputers. These connections, of course, generally stimulate demand for more mainframe capacity, as seen in survey data showing that more than two fifths of the IBM sites doing so find their mainframes' workloads increase. About half the sites saw no change. The bigger the mainframe to which the PC is attached, the more likely it will load the mainframe.

In the IBM PC software arena, where Lotus Development's 1-2-3 has long been the market leader, IBM has gained sizable user bases for its Displaywrite, Personal Decision, and Topview products. The 1-2-3 product is evidently slowing and its replacement, Symphony, is taking up only part of the slack.

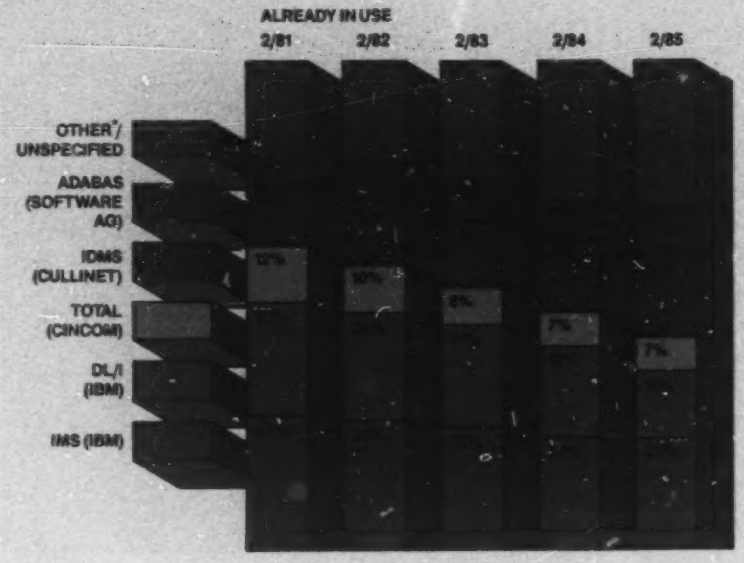
In the office systems market, IBM's majority share of the mainframe market is helping it win many orders. The company this year has a 61% share of the office systems/word processing installed by respondents (up from 53% last year), while Wang, in second place, saw its share fall to 15% from 19%.

Spending for host software packages continues to increase, but IBM's share of those outlays seems to have peaked in 1982 at 67% and is now at 62%. The reservoir of IBM users still not using database management packages is shrinking, especially among large-scale users. Of those database systems currently in use on 370 mainframes, IBM still has

FIG. 3

MAINFRAME DBMS PACKAGES

Query: If you are using a DBMS software package on your IBM mainframe system(s), which one(s)?



*Includes 11% other IBM (SQL, DB2, CPF, etc.), 5% ADR Datacom, 2% Focus, 2% System 2000, etc.

FIG. 4

IBM MOST POPULAR ALTERNATIVE

Query: If seriously considering a change in vendors, who is the likely supplier?

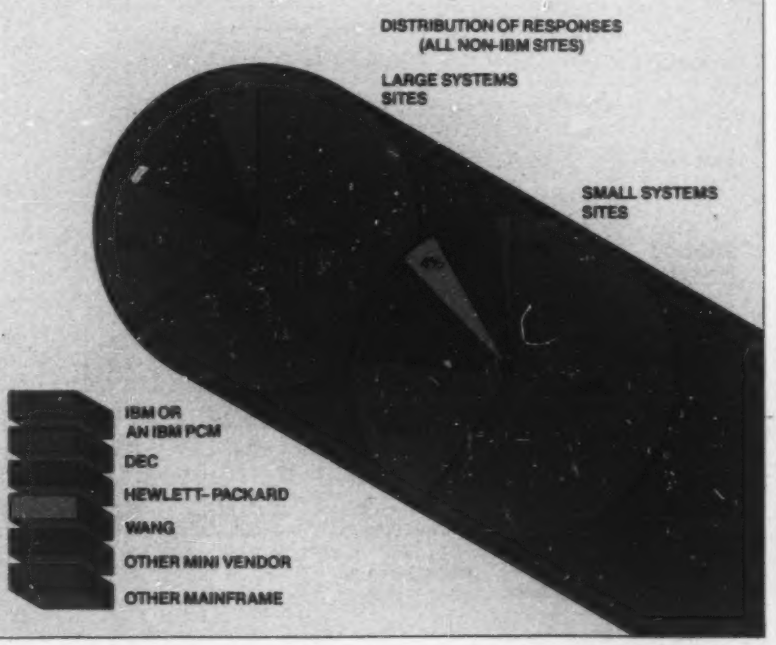


FIG. 5

PCS IN OFFICE SYSTEMS

Query: If your organization has office system(s) already in use (or planned), what is (or will be) the principal hardware orientation?

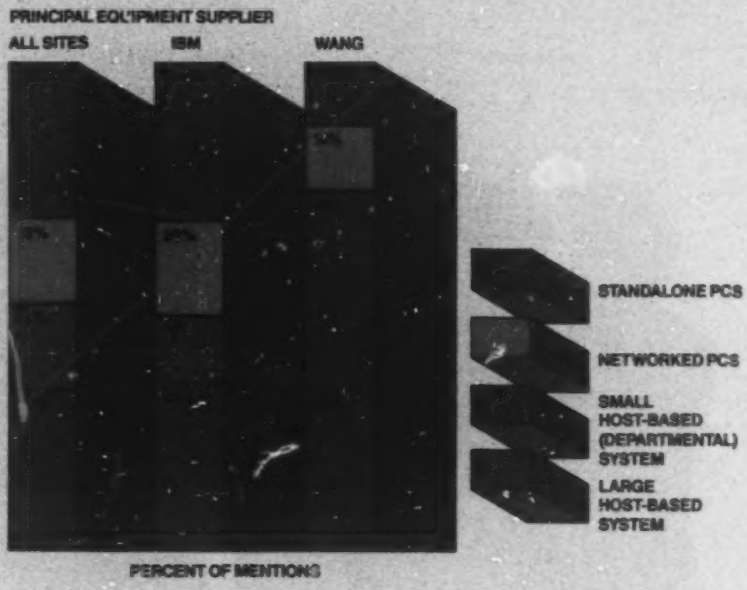
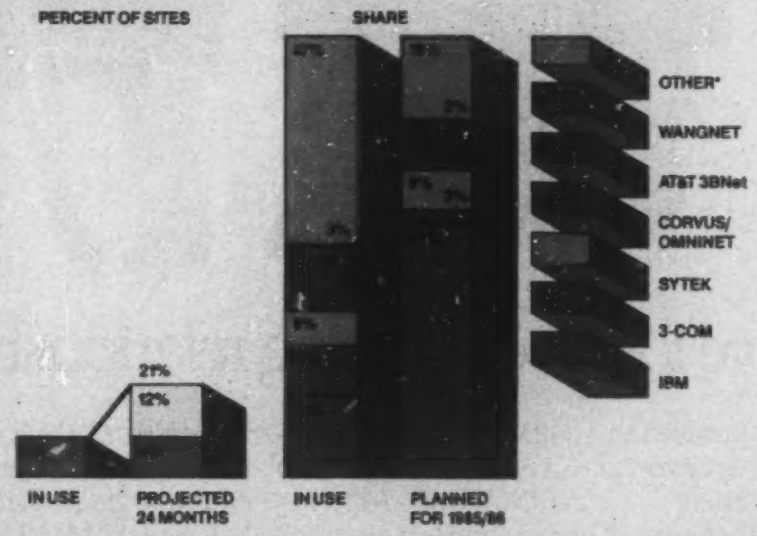


FIG. 6

LOCAL NETWORK PLANS

Query: If your organization has installed or plans to install a local area network (LAN), who is the supplier?



*Includes Xerox (4% in use, 1% planned), Ungermann-Bass (3%, 3%), Network Systems Hyperchannel (3%, 2%), Datapoint Arcnet (3%, 0%)

a leading share (23%) but one that has gradually decreased in the past four years as Cullinet, Applied Data Research, and Software AG expanded their shares. IBM has responded with several new database products, however, including DB2 and SQL, which appear to be helping it in this crucial systems software arena.

One area where IBM is the only supplier is mainframe operating systems. Here, just over half the respondents (up from 42% last year) said they will have the VM "hypervisor" system installed by the end of next year. Similarly, the Extended Architecture version of MVS, known as MVS/XA, is currently in use by 22% of all MVS users now (up from only 7% in last year's survey), but will be installed by 34% more this year or next. Another 22% indicated they indeed planned to install MVS/XA, but later.

The majority of users seem to be waiting for IBM to make its local area networking move before they install LANs. Only 9% of the respondents had LANs installed at the time of the survey, but another 12% said they planned to do so by the end of 1986. Almost three fifths of the sites still planning such networks claim they will use an IBM scheme. The bad news for Xerox Corp. is that its version of Ethernet, upon which much of the company's high hopes for office systems sales rested, is in use by 4% of the respondents now but fits into only 1% of the plans being implemented during the following 24 months.

LANs, however, appear to be gaining a strong lead over private branch exchanges (PBXs) as local data communications devices, at least among those sites that have made a choice. Meanwhile, AT&T's share of the PBX installations among respondents has increased for the first time in three years, hitting 39% of planned installations, up from only 31% of those already installed.

In the area of dp budgets, users expected an annual increase of 9.3% over the next three to five years. The most rapid hardware budget growth is among large-system sites where budgets will grow 10.5% a year. While demand for MIPS will grow at 33% a year, demand for disk megabytes will grow about 35% a year during the next three to five years. Asked what they expected the annual rate of decline in price-per-MIPS on IBM processors to be, respondents came up with an average of 14.5%.

The collective future of the BUNCH companies is far less bright than that of IBM, for their mainframe bases have ceased growing, and in several cases efforts to build on those bases with an array of small systems have not met with tremendous success. Generally, their loss is IBM's gain: the survey figures show a ma-

jority of defecting users move directly to IBM hardware. Some of the BUNCH companies have had to shore up their product lines with equipment purchased from oems, leading some users to speculate about their vendors' commitment to the computer business.

Burroughs. Efforts by Burroughs Corp. over the past few years to stem migration from its user base have evidently paid off in certain key areas, but users continue to have complaints about others. New computers, including the desktop machines Burroughs gets from Convergent Technologies, seem to have done their job in providing users with the new functions and price/performance they previously sought. Burroughs is in the midst of broadening its product line, adding the A Series medium- and large-scale mainframes, a series of Unix-based machines, and various office systems. It has also been concentrating on certain industrial sectors, apparently with good effect.

The A Series saw its first model, the A-3, unveiled last June and the survey shows a good response by users. More than a fifth (22%) of the users now running B6800/6900 equipment have plans to install A-3s this year, followed by 11% next year and 9% later.

Among B7800/7900 users, the corresponding figures are 10% this year, 6% next, and 7% later. The machine has been less warmly received by B1000 users; only about a fifth of them find the A-3 an appropriate upgrade. Among those not planning to acquire an A-3, however, the strongest reasons were that present systems are adequate and, particularly among B68/6900 sites, that they were dissatisfied with Burroughs as a supplier.

Judging by the need voiced by users for additional processing power, additional models in the A Series, one of which (the large-scale A-15) was introduced just after this survey was taken, will be welcomed. Among users at B1000 and B2"-3900 sites, more than a fifth indicated a need to install larger processors while fully a fifth of large, B7000 sites need additional processors. Banking users showed a notably positive swing toward needing additional capacity. Burroughs sites claimed to be aware of machines labeled with odd numbers A1 through A17 that were expected to be introduced this year. Meanwhile, a substantial number of users also expect Burroughs this year to come out with its V Series of medium-scale machines.

The winding down of the B7900/4900 product cycle, noted again this year, has nevertheless apparently dampened respondents' mainframe spending with Burroughs when measured in dollar terms. Asked how much, as a percentage of their installed base, they expected to

FIG. 7

PC SOFTWARE PACKAGES

Query: Which of the following pc software is in use now or planned for use by your organization in 1985/86?

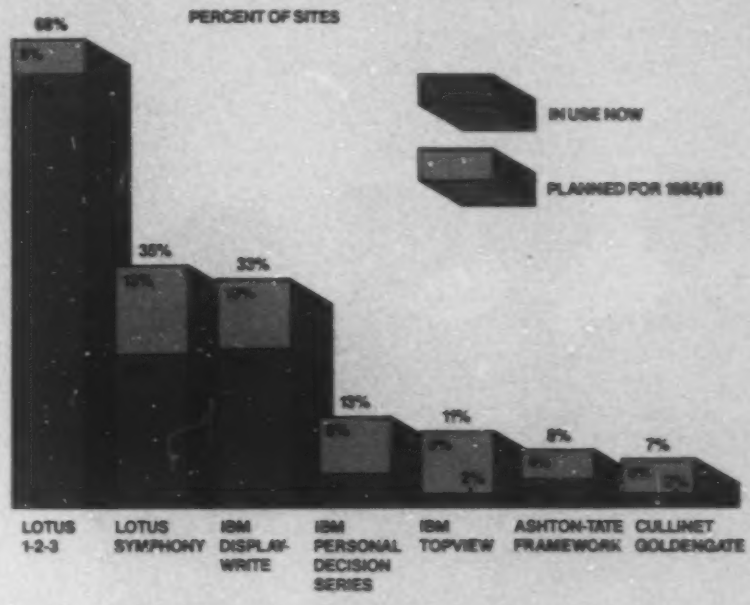
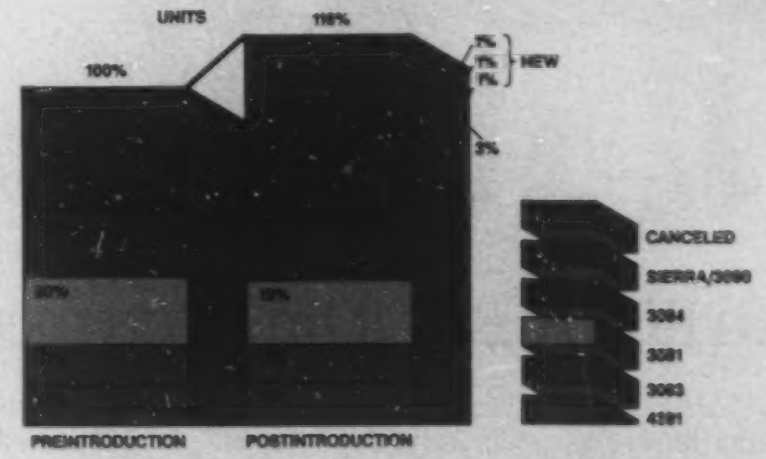


FIG. 8

RESPONSE TO SIERRA

Query: What, if any, changes have you made in your originally stated next 24 months' planned installations of IBM large systems pursuant to the introduction of the 3090/200 and 3090/400?



• Respondents had been asked in original survey questionnaire to "assume introduction by IBM of Sierra (new top-of-the-line system) in the January–June time frame for initial delivery prior to 1985 year-end" in detailing their next 24 months' systems installations plans.

spend in the following 24 months, users indicated only 15%, compared with the 31% and 41% seen in last year's survey and that of the year before. In terms of units to be acquired, this year's survey shows users planning to spend an equivalent of 23% of their installed base, compared with 19% and 20% in the two past surveys. These figures did not take into account A-15 orders or shipments of the Convergent-supplied B25.

Relative to the industry sector, users in national defense planned the most acquisition activity with Burroughs, while government and education were soft. There was a conspicuous lack of increased demand in the manufacturing customer base that is so important to Burroughs. Add-on peripherals and memory acquisitions will be weaker this year than last, even in the disk area where Burroughs' Memorex subsidiary is active.

In all markets but education there was a net positive shift in attitude toward Burroughs, on average 10%. Particularly more favorable attitudes were discovered among distribution and government sites, indicating that the company's "lines of business" focus is paying off. Medium-scale users, too, showed a strong shift in positive attitude.

Compared with IBM, Burroughs was claimed by users to excel in operating systems software (a traditional strong point for Burroughs), price/performance of systems, and database/data communications software. The weakest points for Burroughs were industry-specific software packages (cited by half the sites for the third year in a row) and systems engineering support and sales personnel. A shrinking percentage of users desired to replace their Burroughs mainframe altogether: 7% this year compared with 9% two surveys ago. Evidently, the A Series, new disk subsystems from Memorex, and other new offerings are helping to keep users loyal to Burroughs.

AT&T's share of private branch exchange installations has grown since last year.

Sperry. This vendor, like others in the BUNCH, showed some bright spots and some dark spots. Sperry sites are showing strong demand for additional mainframe capacity, now that the 1100/90 system is a proven product, and they are acquiring their vendor's Sperrylink office systems in increasing numbers. Users are evidently responding to the company's pricing strategy, which encourages purchasing over lease. On the other hand, the company's relatively new Unix systems are not finding broad acceptance among these respondents.

The 1100/90, finally shipped after many months' delay, has whetted Sperry users' appetite for additional computing capacity and promises to provide substantial activity in the coming two years. At large Sperry sites, only 26% of the respondents, down from 34% last year, said they would have enough capacity installed by year's end. On the other hand, 34% this year said they needed to add more memory, 20% needed a larger processor, and 12% will install additional processors. Even those with 1100/90s installed indicated a need to upgrade or install additional processors.

As 1100/90 shipments escalate, installation activity for Sperry's medium-scale products remains robust but seems to be slowing. Shipments of 1100/60 and 1100/70 systems peaked two or more years ago, according to this survey, and users of those systems are showing a growing interest in minicomputer solutions for future needs. Sperry is not particularly strong in the mini market, but it can look forward to a strong shipment year anyway. In dollar terms, respondents indicated plans to install gear worth 19% of their current installed base over the following 24 months. Last year's comparable figure was 13%.

Just over a fifth (22%) of all Sperry sites indicated they had Sperrylink equipment installed and another 14% have plans to install it. The strongest reception for the office system appears among 1100/60 and 70 sites, where 32% have Sperrylink installed and 19% have plans to install it. By contrast, however, 31% of all respondents said they had no plans to install Sperrylink and another 22% said they have considered the system but have no plans for it.

Sperry's push into the Unix arena has caught the interest of a fairly small segment of its user base, concentrated among scientific sites. Among midrange 1100 users, only 15% called Unix "very desirable," while a similar portion of large-scale users (16%) answered likewise. Like other vendors, Sperry may be finding that Unix on a mainframe is not an immediate seller.

In comparison with IBM, Sperry was relatively strongest in the areas of systems price/performance and operating system software, but continues to suffer in the vital applications software area where 67% of respondents, compared

SIERRA SAVES THE YEAR

A strong order response by users to IBM's February unveiling of the 3090 Sierra mainframes comes just when it needs their revenues to boost faltering 1985 growth.

The main all-vendor survey, taken before Sierra's formal introduction, indicates that a total of 92 Sierras were planned to be ordered by respondents, but a post-Sierra follow-up answered by 175 large IBM sites indicates a 40% step-up from these previously stated expectations. The original survey had asked respondents to assume that Sierra would be introduced before June 1985 and delivered by year-end.

In terms of units, the post-Sierra survey shows that the total number of IBM mainframes to be installed through the end of 1986 rose by 13% compared with the plans they previously indicated. Before Sierra, spending in dollars by all IBM respondents for all types of mainframe systems during the same period was anticipated to equal 25% of the if-sold value of their current installed base (compared with 28% last year), but once Sierra was public the figure rose to 30%. In other words, the 3090 seems to have been brought to market at a critical time when shipments of other large IBM systems (303X and 308X) were beginning to taper.

In fact, in terms of dollars to be spent, respondents indicated that 39% of their spending for IBM mainframes in the next 24 months would go for Sierra hardware, so evidently users are ordering Sierras at a strong rate. Among those users indicating a specific model number, about four 3090-200s were to be ordered for each model 400.

Once they had seen the machines' specs, most users (63%) said they would themselves purchase the Sierra hardware during the next 24 months, while 8% will lease through IBM Credit Corp. and 29% will lease through a third party.

The same users have taken well to the double-capacity 3380E disk drives that came out with Sierra. Of the DASD units they plan to install over the next two years, 41% will be single capacity followed by double-capacity drives, and 24% will be double right from the start.

Some users indicated they were mildly disappointed with the 3090's price/performance level and even more so with its delivery schedules, which according to IBM stretch out to early 1987.

Meanwhile, in comments collected during the follow-up survey, users said they expected IBM eventually to come out with a uniprocessor version of the 3090 (the model 200 has two processors and the 400 four). Some said the machine was too little too late, others claimed it would buoy the value of 308X systems on the used market, and still others were disappointed that 6Mbps channels were not offered. One user, in fact, said, "The 3090 offering is not a new generation of mainframe, just the final 370 offering. If this is *really* Sierra, it's a joke."

with 61% last year, found Sperry inferior to IBM.

NCR. The past year has seen NCR struggle to hang on to mainframe users, boost add-on activity among those users, and strengthen its showings in the small computer arena. It had only modest success in those endeavors, however.

First of all, the NCR sites have been slow to install the company's 9000 series machines, which the survey showed as accounting for only 16% of the installed base's dollar value, albeit up from 8% last year. The aging 8000 series (including the 9020 and 9040) systems, which made up 41% of the installed base value in the 1979 survey, still account for more than two fifths of this year's base. Clearly, large NCR users are in need of an upward migration path, and with most of the 8000 base sold off or fully depreciated, NCR can offer users significant price/performance increases in 9000 machines without giving up profits.

NCR's efforts to penetrate large accounts have evidently been a frustrating activity, judging by the fact that only 1% of the responding sites, down from the 4% measured last year, are at organizations with annual revenues over $500 million a year. More than half (52%) of NCR's sites bring in revenues of less than $25 million a year. About a quarter of those sites using small systems were found to be unsure of their future plans; another 16% said they planned to replace their NCR mainframes.

A small swing toward lower capacity needs in the future was registered this year, continuing a trend that was first seen in last year's figures. That trend, along with a general slowing of the economy, falling system prices, and a lack of high-end hardware presaged a slow growth year for NCR's systems business. In dollar terms, respondents' planned over the following two years to install equipment with a value equivalent to 12% of the current installed base. Last year's comparable figure was 24%.

NCR's Worksaver line, a three-year-old series of desktop machines supplied by Convergent Technologies, is making modest penetration of the NCR base, but it may be losing steam. Only 13% of respondents indicated they had Worksaver installed, followed by a mere 3% planning to install it. On the other hand, 22% of the respondents said they had considered the product but had no interest in it, and only 13% said they had any plans to evaluate it in the future.

Similarly, NCR is faring poorly in the personal computing arena where its MS/DOS machine is up against IBM. Even within its own mainframe customer base, only a third of those sites that have picked one or two standard makes have picked NCR pcs (40% chose IBM). The survey shows that large NCR users pick IBM more often, while smaller users favor NCR pcs.

Like other BUNCH companies, NCR must consider making Unix a standard offering on its mainframes. Once NCR, or any other company, discloses such plans, it becomes vulnerable to defections by users who, now forced to convert from one system to another, can more easily justify moving to another system vendor altogether. In this regard, NCR sites showed a marked drop from last year in their judgment of an incompatible operating system on the company's next generation of mainframes. Where last year 44% of the responding sites said such a new operating system would make them more likely to consider NCR for future system expansion, this year only 38% so indicated; compared with 4% last year, 8% this year said such a move would make them less likely to stay with NCR. A stronger positive reading on this issue came from large sites, where users are generally more inclined toward non-NCR solutions.

In comparison with IBM, NCR as a vendor was found most deficient in applications and database/data communications software. The Dayton, Ohio, company's field maintenance and systems price/performance were two particularly strong points with users, the survey indicates.

With product cycles peaking this year, Sperry appears poised to do the best of the BUNCH.

Honeywell. This Minneapolis manufacturer has seen far better days in its computer business, which has gloomier prospects than ever. The survey was completed before the company introduced its NEC-built DPS 90 systems, which should help Honeywell significantly with its largest customers, but the potential for defection among large Honeywell users remains strong, far higher than for Burroughs and Sperry. Moreover, the reservoir of Level 66 users to be migrated into the DPS 8 line is nearly tapped out now: of those left with small Level 66s, for instance, 27% plan to install DPS 8 hardware but 49% are not planning to do that.

On the other hand, an encouraging sign for future DPS 88 shipments is to be found in the fairly big number (65%) of large systems users willing to convert to the virtual memory GCOS 8 operating system. In fact, at the time the survey was taken, only two DPS 88 machines were installed by responding sites, but nine more are to be installed by year-end.

Planned acquisition activity (not including the sizable and dynamic DPS 6 base) for the following 24 months was down from a year earlier. In dollar terms, an equivalent of 11% of the value of the current installed base (down from 14% last year) will be installed this year. In terms of units, the figure is 13% of the installed base, equal to last year's figure.

Field upgrades still represent a significant source of high-margin business for Honeywell. This year and next such upgrades will in unit terms equal 15% of the installed mainframe base. Upgrade activity in the DPS 8 base is picking up now that many of those machines have been installed for two to three years: more than a quarter of those machines will be upgraded in the coming 24 months. Honeywell's share of add-on peripherals installations will generally be up this year, although it seems to be suffering from compatible competition in the terminal arena. And only a very small number of respondents (less than 10% in each size category) said they anticipate a major mainframe system introduction by Honeywell this year.

The small DPS 6 line continues to be an important adjunct to Honeywell's mainframe product strategy, with 53% of large systems sites and 43% of Level 64 sites indicating they are using or will use the machine to supplement their mainframes. As for office systems, Honeywell has shown a modest but growing penetration of its user base with its DPS 6-based system. Among large users, a fifth have installed or will install such gear (compared with only 13% last year), while for the second year running, 23% of those large users have considered the system but have no interest in using it.

Asked what change in their attitude toward Honeywell took place during the past year, users surveyed showed a shift to the negative. Level 62 users, in particular, were disgruntled about their systems being dead-ended. Among large systems users as a whole, 28% said their attitude was less favorable while 16% indicated an improvement. In a comparison with IBM, Honeywell ranked well in the systems price/performance and operating system software categories, but fared poorly in industry-specialized terminals and applications software. As a whole, Honeywell users were found to be less positive toward their supplier than customers of Sperry and Burroughs. (It should be noted that General Electric, Honeywell's largest user, declined to participate in the survey for reasons of corporate policy. The survey also concentrates solely on domestic sites, thus ignoring Honeywell-Bull's substantial user base in France.) ◉

To order the complete 1985-'86 DATAMATION/Cowen & Co. mainframe survey results for $750, please call Julianne Kilbride at (212) 605-9582.

dramatically in recent years. In 1981, according to Arthur D. Little, pcms held 5.6% of the U.S. general purpose large systems market, while by 1984 they had dropped to 4.5% of a $13.1 billion pie.

"It's clear from Amdahl's utterances about its Aspen operating system and its UTS Unix that it is looking for opportunities outside the MVS area. The writing is on the wall," ADL's Withington says.

Currently only 35% of Amdahl's customers (and 50% of IBM's) have embraced MVS/XA. A fair percentage will never even set off on what IBM calls "the journey," preferring instead to stay with IBM's older 24-bit architecture or to look for a more generic 32-bit architecture.

"But these are only peripheral opportunities for us," Amdahl's Gitomer stresses. "We don't believe these markets are big enough and so we must, and will, stay with MVS."

This, of course, means living with the object of the most potent fear, uncertainty, and doubt that IBM can generate—its XAA microcode. "We've been living with the myth of microcode since 1977, when MVS/E was announced with the 303X," Gitomer says. "We're used to battling the phantoms by now."

Perhaps the pcms' new rallying cry should be, "We ain't afraid of no ghosts!" ◉

TOO LITTLE, TOO LATE?

Can Honeywell save its user base with the DPS 90?

by Robert J. Crutchfield

Honeywell Information Systems' introduction of its DPS 90 line-topping mainframe—with deliveries commencing immediately—has come none too soon for a user community whose confidence and loyalty are waning faster than the Red Sox in September.

Executives at Honeywell stress the company's commitment to supporting and enlarging its user base. The Minneapolis conglomerate points to the DPS 90, the top end of which is comparable to IBM's 3090 Model 400 in power, as a "clear indication" that the company is in the computer business for the long run.

If only the users thought that way. A recent DATAMATION/Cowen and Co. study revealed that Honeywell—more than any other BUNCH company—is barely hanging on to its user base. Indeed, Honeywell users have the highest potential for defecting to other vendors: 31% of the 739 users surveyed indicated they are "seriously considering a change" to another vendor (see Fig. 1). Bob Hesser, Honeywell vice president of large computer marketing, declined to comment on the survey.

FIG. 1

MAINFRAME USERS CONSIDERING A CHANGE

VENDOR	1983	1984	1985
Honeywell	24%	30%	31%
Burroughs	19	16	19
Sperry	19	12	15
NCR	12	13	12

Source: Cowen & Co./Datamation Survey

Granted, there are some satisfied Honeywell users, such as General Electric Information Services Co. of Rockville, Md., and Dynamics Research, a defense contractor in Wilmington, Mass. But on the whole, signs of unrest abound. One consultant specializing in Honeywell dp shops says his clients are uncertain whether Honeywell can continue to ply the mainframe trade. "They could pack it in tomorrow or they could continue for quite a while," the consultant says. "It is their 100th anniversary [and] their chance to make it or break it."

At Dynamics Research, information services chief Richard Hendricson says he has "no concerns in the short term of three to five years. Like many users, we don't want to be committed to one vendor." Hendricson's dp shop has three tightly coupled DPS 8/70s and several VAXs, which are used for engineering and custom software development for Department of Defense applications.

Installations such as Dynamics Research helped HIS post its second consecutive healthy year in 1984, as revenues rose 10% to $1.8 billion and earnings jumped 37% to $180 million. The improved financial picture is due more to the cost-cutting measures, like laying off 3,500 workers in its Phoenix-based large systems division in the past three years, than to real growth, however.

One way that Honeywell has been able to save money has been by expanding its business relationships with NEC of Japan and Bull of France. Last year the three firms renewed for an additional decade their 20-year-old business relationship. For products sold by all three firms Honeywell has marketing rights to North America, Italy, and the U.K.; Bull has rights to the rest of Europe; and NEC has rights to the rest of the world.

Yet Honeywell's financial health hides several severe problems that the firm has yet to resolve. The most important is that the HIS user base is small—and shrinking. Company officials boast that Honeywell, NEC, and Bull have shipped over 3,000 DPS 8 or 88 mainframe cpus worldwide, yet only 500 sites in the U.S. have Honeywell mainframes.

The distinction between American and foreign users is important because the same machines run different operating systems in different countries. For years Honeywell's machines have been running GCOS-8, a proprietary system developed specifically for the DPS 8 line. Users have consistently praised the system's rich operating environment and its database offering, IDS 2.

The comparable NEC and Bull mainframes, however, primarily run the AOS system that was initially developed for Honeywell's DPS 6 line of minis. "If the Japanese were ever able to develop a decent operating system, we'd be in trouble," one user quips.

As good as GCOS is compared to other environments, however, it is still a proprietary operating system and users do report having trouble purchasing third-party software. One user notes, "For years Honeywell looked at third-party software vendors as competition. It only embraced third-party vendors a few years ago and it might be too late." Only recently have large third-party software vendors, like Atlanta-based MSA, offered applications software for the holdout GCOS-8 users.

Honeywell's software troubles are compounded by its staunch reluctance to offer hooks into industry standard environments, despite Bull's recent endorsement of Unix. NCR, National Advanced Systems, and Honeywell are the only U.S. mainframers who still ignore Unix. Moreover, to enter IBM networks, users must first buy a DPS 6 as a front-end SNA processor.

Honeywell users are more likely to defect to another mainframer than Sperry, NCR, or Burroughs users.

Honeywell's proprietary technolo-

gy is alienating customers, not just because it lacks third-party software, but also because it strains employee relations in dp shops. The DATAMATION/Cowen & Co. study found that over 40% of Honeywell shops had trouble finding trained workers. Conversely, Honeywell users are having a hard time finding jobs. Hoffmann-La Roche, a pharmaceutical company in Nutley, N.J., recently laid off 80 programmers and analysts, many of whom have abandoned their Honeywell expertise in favor of crash courses in IBM technology.

With these obstacles to overcome, Honeywell clearly needs to succeed with the DPS 90. The firm's ability to ship the family of five systems now—18 months ahead of IBM's largest 3090 models—is certainly an asset. Gary Mueller, vice president of information processing at

Honeywell's financial health hides several severe problems the firm has yet to resolve.

GEISCO, says he expects one DPS 90 to replace four or five DPS 8/70s. By the end of the year, GEISCO will take delivery of 12 DPS 90s for use in its remote computer services operation.

Hesser bills the five DPS 90 models—one-, two-, three-, and four-processor versions and a fault tolerant system—as "competitive" with IBM's Sierra family in commercial applications and "superior" in interactive environments. The company has fine-tuned the price of the DPS 90 series slightly downward from the original $3.9 million to $8.3 million range. The DPS 90 has integrated array processing capabilities that enable it to operate at 7.1MFLOPS in scientific environments.

"The DPS 90 is suited for number crunching," one user observes. "The [commercial] throughput of the 90 is not as impressive as the 88." Honeywell claims the uniprocessor DPS 90 is 30% more powerful in commercial environments than the DPS 88 uniprocessor it supersedes, and 70% more powerful in scientific environments.

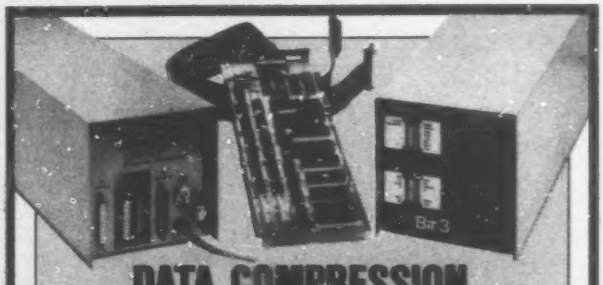
Hendricson of Dynamic Research adds that "the DPS 90 would be an attractive option if we were hurting for more processing cycles."

NEC is building the DPS 90 for all three companies. Known in Japan as the S1000, the system is based on Honeywell's design for its never-produced DPS 66/85. "The Japanese took the 66/85 and made it run faster," one user says. "The DPS 90 is a damn fast machine that is

GEISCO'S MUELLER: A single DPS 90 can replace four or five older mainframes.

available today." (Hesser of Honeywell notes that the DPS 90 is five times more powerful than the 66/85 would have been.)

While some observers criticize Honeywell for oeming the DPS 90 from NEC, others defend the firm. "I don't see Honeywell's involvement with the Japa-



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nese as an indication they are going out of the mainframe business," one user argues. "When IBM separately sources from third parties people say it's a brilliant marketing move. It is a question of perception."

Customer perception of a company is often influenced by the firm's marketing savvy, and both users and Honeywell note the mainframer's difficulties in that area. One MIS vice president says, "You can see the slide rule hanging out of a Honeywell salesman's pocket. Honeywell doesn't know how to sell to the boardroom, just to techies."

Hesser admits there is a problem in sales. "We are too straightforward as marketeers and should be calling higher [in the customer's company]."

Part of Honeywell's strategy is to sell system solutions in addition to its general purpose computing business. HI

Over 3,000 DPS 8 or 88 cpus are installed worldwide, but only 500 U.S. sites have them.

sells office systems, a "smart building" system, and other products for vertical markets, but many of these have been unsuccessful. The office systems division, Billerica, Mass., recently laid off hundreds of workers and ordered four week-long plant shutdowns to save money.

The company's great white hope, as it were, is its long-established presence in the process control industry, with thousands of installations to date. Honeywell officials hope to expand that charter into all factories, and they have recently added compatibility with General Motors' MAP standard to the product lineup. "We're not the only company staking a claim in manufacturing automation," concedes Bill George, executive vice president. "But we're different from all our competitors because we're the only one present in every segment of the business. "We've got an advantage with MAP, too. Our architecture includes MAP baseband at the supervisory level and MAP broadband at the plantwide level. We're positioned to respond rapidly to the MAP standard as it becomes firm."

Whether the factory automation effort or even the DPS 90 will enable Honeywell to enlarge its user base is unknown. While many critics say Honeywell's mainframe business is as good as dead and that its users are gradually abandoning the firm, the company's relationship with NEC and its remaining loyal customers promise to keep HIS afloat at least for a few years. And that's better than nothing at all. ●

DBMS

DATABASE MACHINES TAKE OFF

Users give rave reviews to the new database machines.

by Edith Myers

Computing's first lady, Commodore Grace Murray Hopper, has been talking up specialized database machines for some five years now.

"Computers are not made to search databases," she is fond of saying in speaking engagements all over the country. Hopper's blessing for back-end machines notwithstanding, database machines have not exactly made a big splash in the first half of the '80s, but maybe their time has come.

The leading providers certainly hope so. They are seven-year-old Britton-Lee, Los Gatos, Calif., and much younger Teradata Corp., Los Angeles. For the moment, Britton-Lee is primarily ad-

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